

Dan Longanecker, CPPB  
Department of Procurement  
255 W. Alameda, 6th Floor  
Tucson, AZ 85701

RE: City of Tucson RFP No. 140983: Ronstadt Transit Center Joint  
Development Project, Phase II  
Request for Clarification: Transit Operations

Dear Dan Longanecker,

We appreciate the opportunity to clarify our proposed transit operations. We have included:

- Transit Plan – support services, numbered bus bays, service lanes, passenger waiting areas, and bus circulation lanes
- Figure 1 Transit Plan – Sun Tran route access to the transit mall
- Figure 2 Transit Plan – projected number of buses accessing mall during peak hours
- 2 different views of the transit mall with signage
- Bus Assignment Spreadsheet

Examples of similar linear transit malls can be found in Seattle (3rd Avenue and Downtown Seattle Transit Tunnel), Portland (5th and 6th Avenue), and Minneapolis (Nicolette Mall). The common principle of a transit mall is that multiple bus routes are assigned to a single bus boarding area (or bay), as opposed to individual bus routes being assigned to an individual bus bay (like the Ronstadt Transit Center today). The advantage of the linear transit mall is that it provides more operational flexibility in terms of frequency and bus fleet. Our proposal does not depend on increased frequency, but rather allows for increased frequency to occur (for example if the Sun Trans bus system changes from a pulse based transit system to more of a frequent transit network system). The current concept shows that the linear transit mall can accommodate 16 to 18 bays compared to the existing 12 bays. The linear transit mall anticipates that Sun Tran will want to change the bus network from a pulse based transit system to a more frequent transit network where bus volumes are more equitably distributed throughout the hour. In other words, it would accommodate more buses per hour, but there would not be as many buses at the Center at one time as there are today. The linear model is more flexible, better in urban settings, and proven in multiple cities across the US. However, it is Sun Tran's decision whether they want to move to a linear transit mall or stay with their current pulse system. Our plan can accommodate either approach.

Service bays are located adjacent to Toole and near Congress for access. The bays can be parallel pull-outs, and/or provide perpendicular parking and access into the service cores where the waste and recycling are contained. Dumpsters can be rolled out on pick-up days, or accessed in the building. Service can be scheduled for night and early morning. Normal deliveries can utilize the hotel, taxi, shuttle bays on Congress and 6<sup>th</sup> Avenue.

In addition to the examples and explanation of how the transit mall works for Sun Tran, it is also beneficial for circulation downtown. Congress and Toole are both critical to downtown circulation and the success of the Ronstadt redevelopment project. Currently, the traffic volume on Congress is approximately 15,000 vehicles per day. Studies conducted for the Downtown Links project showed that nearly 50% of weekday traffic on Congress was through traffic, not destined for downtown. Conservatively, it is expected that 25% of the current traffic on Congress, or some 3,800 vehicles will use the Downtown Links by-pass when it is open in two to three years. As such, it is expected that traffic volumes on Congress will decrease, even with added buses. Bus access to the transit mall is essentially equally distributed on Toole and Congress. Alternatively, focusing all bus access to the Ronstadt transit center onto Toole would significantly impact the transit mall's capacity and downtown circulation function, pushing more traffic onto Congress and impacting the potential for additional downtown redevelopment. As the downtown area continues to redevelop, it is expected that Toole will serve a greater role to relieve auto traffic demand on Congress. Therefore, maintaining the traffic carrying capacity of Toole is critical. Placing all access to the transit center onto Toole will substantially diminish its capacity and ability to support its important role. One of the benefits of the transit mall is that it avoids this impact.

Regarding the included renderings:

Figures 1 and 2 describe a potential transit mall access scheme based on routes currently serving the Ronstadt Transit Center (RTC). Figure 1 illustrates the likely ingress and egress of each route utilizing the transit mall driveways on Congress St and Toole Ave. The most significant change would be to buses that currently travel northbound on 6<sup>th</sup> Ave to access the RTC via Pennington St. In this access scheme, these buses would instead use 5<sup>th</sup> Ave and Congress St to access the transit mall from the south. They could then exit onto Toole Ave as they currently do today. Figure 1 also shows the locations where express routes would stop, either on 6<sup>th</sup> Ave or Toole Ave. However, express buses could also make stops within the transit mall.

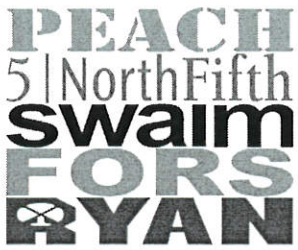


Figure 2 shows the volume of buses accessing the transit mall during morning and evening peak hours. These bus volumes represent current headways and the access scheme illustrated in Figure 1. They do not include express buses. During a peak hour, 31 buses would access from the south and 23 from the north. Note that the transit mall design as shown can accommodate 62 buses per hour in each direction with approximately 2-minute dwell times. Considering current bus demand, the transit mall offers substantial capacity and flexibility to accommodate growth.

Also, included in Figure 2 are recently collected evening peak hour traffic volume counts. The potential impact of adding buses, particularly to Congress St between 5<sup>th</sup> Ave and 6<sup>th</sup> Ave thus can be accurately assessed. Under current conditions, a relatively small number of buses (31) would be added to the roughly 950 vehicles currently travelling on Congress St. However, it is important to note that traffic volumes on Congress St are expected to decrease by a minimum of 25% when Downtown Links is in place. This will lower the peak hour volume to roughly 700. On 6<sup>th</sup> Ave, 21 buses would turn right onto 6<sup>th</sup> Ave, with a current northbound peak hour volume of some 300 vehicles. An exclusive right-turn lane on Congress St would accommodate the buses exiting the transit mall and mitigating impacts to traffic flow in the Congress St through lanes.

Overall, distribution of the access to the transit mall from both Congress St and Toole Ave provides substantial traffic operational flexibility on both Congress St and Toole Ave.

In order to demonstrate how the transit mall operation works, a sample bus assignment example is provided that shows how existing buses at Ronstadt Transit Center could be scheduled using the linear transit mall. This example assumes there are 16 bus routes (numbered 1-16). It does not correlate to the current Sun Tran bus route names, but it does represent the same number of bus routes and frequencies. The buses are grouped into four bus bays (or zones), whereby the buses could be scheduled either as a pulse based system or as a frequent transit network system. For a pulse based system like Sun Tran operates today, the common requirement is enough physical space to accommodate the maximum number of buses at one time. This space exists when calculating the linear distance of the transit mall and the total number of bus bays within each bus bay group (or zone). For a frequent transit network system, the common requirement is time and the sample bus assignment example shows that the maximum combined frequency would be just under 2 minutes. Overall, the linear transit mall provides Sun Tran the operational flexibility to develop and schedule bus assignments based on their operating needs (both today and in the future).



We hope that this clarifies our proposed transit operations and we look forward to seeing you on November 2<sup>nd</sup>.

Sincerely,

Ron Schwabe  
Peach Properties

Phil Swaim, AIA  
Swaim Associates







